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Nos. 14-46, 14-47, 14-49

IN THE
Supreme Court of the United States

STATE OF MICHIGAN, ET AL.,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ET AL.,
Respondents.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

BRIEF OF PETITIONER UTILITY AIR REGULATORY GROUP, ET AL.

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QUESTION PRESENTED

Whether the Environmental Protection Agency unreasonably refused to consider costs in determining whether it is appropriate to regulate hazardous pollutants emitted by electric utilities.

PARTIES TO THE PROCEEDING

Petitioners in No. 14-46 are the States of Michigan, Alabama, Alaska, Arizona, Arkansas (ex rel. Dustin McDaniel, Attorney General), Idaho, Indiana, Iowa (Terry E. Branstad, Governor of the State of Iowa on behalf of the People of Iowa), Kansas, Kentucky (Jack Conway, Attorney General of Kentucky), Mississippi, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Carolina, Texas, Utah, West Virginia, and Wyoming, and the Texas Commission on Environmental Quality, the Texas Public Utility Commission, and the Railroad Commission of Texas. Petitioner in No. 14-47 is the Utility Air Regulatory Group. Petitioner in No. 14-49 is the National Mining Association. Each petitioner in these consolidated cases was also a petitioner in the court of appeals.

Respondents herein, which were the respondents below, are the United States Environmental Protection Agency, and Gina McCarthy, Administrator, United States Environmental Protection.

Respondents who were petitioners in the court of appeals are: White Stallion Energy Center, LLC; American Public Power Association; ARIPPA; Chase Power Development, LLC; Edgecombe Genco, LLC; FirstEnergy Generation Corporation; Gulf Coast Lignite Coalition; Institute for Liberty; Julander Energy Company; Kansas City Board of Public Utilities; Midwest Ozone Group; National Black Chamber of Commerce; Oak Grove Management Company, LLC; Peabody Energy Corporation; Puerto Rico Electric Power Authority; Spruance Genco, LLC; State of Florida; Commonwealth of Pennsylvania; Commonwealth of Virginia; Tri-State Generation and Transmission Association, Inc.; United Mine Workers of

America; West Virginia Chamber of Commerce, Inc.; Georgia Association of Manufacturers, Inc.; Indiana Chamber of Commerce, Inc.; Indiana Coal Council, Inc.; Kentucky Chamber of Commerce, Inc.; Kentucky Coal Association, Inc.; North Carolina Chamber; Ohio Chamber of Commerce; Pennsylvania Coal Association; South Carolina Chamber of Commerce; The Virginia Chamber of Commerce; The Virginia Coal Association, Incorporated; West Virginia Coal Association, Inc.; Wisconsin Industrial Energy Group, Inc.; Wolverine Power Supply Cooperative, Inc.; Chesapeake Climate Action Network; Conservation Law Foundation; Environmental Integrity Project; and Sierra Club.

Respondent-intervenors in the court of appeals (with respect to certain petitions for review) were Commonwealth of Massachusetts; State of California; State of Connecticut; State of Delaware; State of Illinois; State of Iowa; State of Maine; State of Maryland; State of Minnesota; State of New Hampshire; State of New Mexico; State of New York; State of North Carolina; State of Oregon; State of Rhode Island; State of Vermont; City of Baltimore; City of Chicago; City of New York; District of Columbia; County of Erie, New York; Calpine Corporation; Chase Power Development, LLC; Exelon Corporation; National Grid Generation LLC; Public Service Enterprise Group, Inc.; Gulf Coast Lignite Coalition; Institute for Liberty; Lignite Energy Council; National Black Chamber of Commerce; National Mining Association; Oak Grove Management Company, LLC; Peabody Energy Corporation; Sunflower Electric Power Corporation; Tri-State Generation and Transmission Association, Inc.; Utility Air Regulatory Group; White Stallion Energy Center, LLC; Amer-

ican Academy of Pediatrics; American Lung Association; American Nurses Association; American Public Health Association; Chesapeake Bay Foundation; Citizens for Pennsylvania's Future; Clean Air Council; Conservation Law Foundation; Environment America; Environmental Defense Fund; Izaak Walton League of America; National Association for the Advancement of Colored People; Natural Resources Council of Maine; Natural Resources Defense Council; Ohio Environmental Council; Physicians for Social Responsibility; Sierra Club; and Waterkeeper Alliance.

A respondent in the court of appeals (with respect to certain petitions for review) was Lisa Perez Jackson, Administrator, United States Environmental Protection Agency. Ms. Jackson ceased to hold the office of Administrator, United States Environmental Protection Agency, on February 15, 2013; that office is currently held by Gina McCarthy, Administrator, United States Environmental Protection Agency.

RULE 29.6 DISCLOSURE STATEMENTS

Petitioner

Utility Air Regulatory Group ("UARG") is an ad hoc, unincorporated association of individual electric generating companies and industry trade associations that participates on behalf of its members collectively in administrative proceedings under the Clean Air Act, and in litigation arising from those proceedings, that affect electric generators. UARG has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in UARG.

Respondents in Support of Petitioner

American Public Power Association ("APPA") is a nonprofit trade association whose members are units of state and local governments that own and operate electric generating, distribution and transmission assets. APPA addresses issues of interest to its members, including those issues related to the development and implementation of requirements under federal and state Clean Air Act programs. APPA does not have any outstanding securities in the hands of the public, nor does APPA have a publicly owned parent, subsidiary, or affiliate.

ARIPPA is a non-profit trade association that represents a membership primarily comprised of electric generating plants using environmentally-friendly circulating fluidized bed boiler technology to convert coal refuse and/or other alternative fuels such as biomass into alternative energy and/or steam, with the resultant alkaline ash used to reclaim mine lands. ARIPPA was organized in 1988

for the purpose of promoting the professional, legislative and technical interests of its member facilities. ARIPPA has no outstanding shares or debt securities in the hands of the public and does not have any parent, subsidiary, or affiliate that has issued shares or debt securities to the public.

Gulf Coast Lignite Coalition ("GCLC") is a non-profit corporation organized under the laws of the State of Texas and comprised of individual electric generating and mining companies. GCLC participates on behalf of its members collectively in proceedings brought under United States environmental regulations, and in litigation arising from those proceedings, which affect electric generators and mines. GCLC has no outstanding shares or debt securities in the hands of the public and has no parent company. No publicly held company has a 10% or greater ownership interest in GCLC.

Kansas City Board Of Public Utilities-Unified Government Wyandotte County/Kansas City, Kansas is not required to provide a Rule 29.6 Disclosure Statement because it is a governmental entity organized under the laws of the State of Kansas. Accordingly, no Disclosure Statement is being provided.

White Stallion Energy Center, LLC ("WSEC") is a limited liability company organized under the laws of the State of Texas engaged in the business of energy development and production. Maris Investment Company, LLC, and Sky Global Partners, LLC each hold a 10% or greater ownership interest in it.

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OPINIONS BELOW

The majority opinion of the D.C. Circuit is reported at 748 F.3d 1222 (D.C. Cir. 2014) (*per curiam*), and reproduced in the Utility Air Regulatory Group ("UARG") petitioner's appendix ("Pet. App.") at Pet. App. 3a-72a. The dissent of Judge Brett Kavanaugh is reproduced at Pet. App. 73a-104a.

JURISDICTION

The D.C. Circuit entered judgment denying (and, in the case of No. 12-1174, dismissing) the petitions for review on April 15, 2014. Pet. App. 1a-2a. This Court has jurisdiction under 28 U.S.C. §1254(1).

STATUTORY AND REGULATORY PROVISIONS INVOLVED

Section 112(n)(1)(A) of the Clean Air Act ("CAA" or "Act"), 42 U.S.C. §7412(n)(1)(A), provides:

> **(n) Other provisions**
>
> **(1) Electric utility steam generating units**
>
> (A) The Administrator shall perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions by electric utility steam generating units of pollutants listed under subsection (b) of this section after imposition of the requirements of this chapter. The Administrator shall report the results of this study to the Congress within 3 years after November 15, 1990. The Administrator shall develop and describe in the Administrator's report to Congress alternative control strategies for emissions which may warrant regulation under this section. The Administrator shall regulate electric utility

> steam generating units under this section, if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.

This provision and additional excerpts from 42 U.S.C. §7412 are reproduced at Pet. App. 477a-505a.

The Mercury and Air Toxics Standards rule at issue, 77 Fed. Reg. 9304 (Feb. 16, 2012) ("MATS Rule"), is reproduced in excerpted form at Pet. App. 105a-476a and in full in the appendix filed with the National Mining Association's ("NMA") petition for a writ of certiorari at NMA App. 196a-1160a.

INTRODUCTION

CAA §112(n), 42 U.S.C. §7412(n), provides that the U.S. Environmental Protection Agency ("EPA" or "Agency") Administrator shall regulate electric utility steam generating unit ("EGU") hazardous air pollutant ("HAP") emissions "under this section," if she "finds [that] *such regulation* is appropriate and necessary" to address "hazards to public health" that remain "*after* imposition of the requirements of this [Act]." §7412(n)(1)(A) (emphases added).[1] Because

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[1] The §7412(n)(1)(A) study refers to "hazards to public health reasonably anticipated to occur" as a result of exposure to remaining EGU emissions. Generally, the word "hazard" refers to a *potential* source of harm and the word "risk" is the *likelihood* of harm resulting from exposure to a hazard. Section 7412(n) provides that the "hazard" at issue is a threat to "public health" and the "risk" of that hazard occurring cannot be remote or speculative, but must be "reasonably anticipated to occur." In managing carcinogenic hazards of the kind referenced in the §7412(n) study, EPA has found risk estimates as high as one predicted mortality in ten thousand to be presumptively "safe"

residual risk provisions like §7412(n)(1)(A) address diminishing increments of air pollution, they require balancing substantial costs to society against shrinking benefits.

In the MATS Rule, the quantified costs of HAP regulation are more than one-thousand times greater than the quantified benefits: $9.6 billion versus $4 to $6 million. EPA says that Congress' direction to regulate specific HAP emissions posing remaining "hazards to public health" only if "appropriate and necessary" authorizes the Agency to regulate, at enormous cost, HAP emissions that present only environmental risks or de minimis health hazards. That interpretation is as curious as it is wrong.

STATEMENT OF THE CASE

I. Regulation of EGU HAP Emissions Under the CAA.

Numerous times after passage of the CAA in 1970, EPA evaluated the electric utility industry for potential §7412 regulation. Every time EPA came to a consistent scientific conclusion: the public health risks presented by EGU HAP emissions are vanishingly small and are adequately regulated through other CAA programs. This history informed Congress' treatment of EGUs in the 1990 CAA Amendments.

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and, at the other end of the spectrum, risks of one-in-one million or less to be too remote to require protection. *Infra* pp. 4-5. Hereafter, references to "public health risk" and "health hazards" are used interchangeably to refer to "hazards to public health reasonably anticipated to occur."

A. CAA HAP Regulation Prior to 1990.

Prior to the 1990 Amendments, §7412 required EPA to develop a list of individual HAPs for regulation, and then to develop emission standards for each listed HAP as needed to provide an "ample margin of safety" to protect public health. Pub. L. No. 91-604, 84 Stat. 1676, 1685 (1970); 42 U.S.C. §1857c-7(a)(1), (b)(1)(B) (1970). In establishing these emission standards, EPA interpreted the "ample margin of safety" language to authorize a risk management decision considering "all health information...as well as other relevant factors including costs and economic impacts, technological feasibility, and other factors relevant to each particular decision." 54 Fed. Reg. 38,044, 38,045 (Sept. 14, 1989).

Under EPA's pre-1990 approach to developing HAP emission standards, EPA first established "a 'safe' or 'acceptable' risk level...considering all health information....[with] 'an MIR (maximum individual risk) of approximately 1 in 10 thousand...[as] the upper-end of the range of acceptability.'" EPA, EPA-453/R-99-001, Residual Risk Report to Congress at ES-11 (Mar. 1999), *available at* http://www.epa.gov/ttn/oarpg/t3/reports/risk_rep.pdf ("EPA Residual Risk Report"). In providing an ample margin of safety considering "other relevant factors including costs, economic impacts, [and] technological feasibility," EPA considered alternative standards addressing risks between one-in-ten thousand and one-in-one million to determine a protective level. *Id.*

Over this same period, the CAA required EGUs to install controls for a variety of conventional, non-hazardous pollutants, including flue gas desulfuriza-

tion systems (known as "scrubbers") for sulfur dioxide ("SO_2") emissions and fabric filters or electrostatic precipitators for particulate matter ("PM") emissions. HAPs in EGU combustion gas streams were also reduced by these controls.[2] Reflecting the fact that emissions of HAPs constituted a miniscule percentage of all EGU emissions, every EPA evaluation of EGU HAP emissions prior to the 1990 CAA concluded that those emissions did not pose a significant public health risk. 40 Fed. Reg. 48,292, 48,297, 48,298 (Oct. 14, 1975) (mercury); 52 Fed. Reg. 8724, 8725 (Mar. 19, 1987) (mercury); see also 48 Fed. Reg. 15,076, 15,085 (Apr. 6, 1983) (radionuclides); 54 Fed. Reg. 51,654, 51,671-72 (Dec. 15, 1989) (radionuclides).

In the case of radionuclides, for example, EPA found that EGU emission levels were "safe" because no facility had a risk above one-in-ten thousand (the highest risk from an EGU was one-in-seventy-five-thousand). EPA estimated that 130,000 people in the U.S. were potentially exposed to health risks greater than one-in-one million, and that the cost of

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[2] EPA, The Benefits and Costs of the Clean Air Act, 1970 to 1990, at 39 (Oct. 1997), *available at* http://www.epa.gov/cleanairactbenefits/retro.html ("Control of [hazardous air] pollutants resulted...from incidental control due to criteria pollutant programs...."); see also 65 Fed. Reg. 79,825 (Dec. 20, 2000) ("Notice of Finding"), Pet. App. 621a-622a; 70 Fed. Reg. 15,994 (Mar. 29, 2005) ("2005 Correction Rule") (correcting certain conclusions drawn in 2000), Pet. App. 587a; EPA, EPA-453/R-98-004a, Study of Hazardous Air Pollutant Emissions from Electric Utility Steam Generating Units—Final Report to Congress, Vol. 1 (Feb. 1998), Docket No. EPA-HQ-OAR-2009-0234-3052 ("Utility Study") (estimating utility HAP emissions in 1990), Joint Appendix ("JA") 69.

reducing those risks would require $13 billion in capital costs plus $4.4 billion in annual costs. 54 Fed. Reg. at 51,671-72. Weighing the public health risks and costs, EPA concluded that existing radionuclide emissions were at levels that protected public health "with an ample margin of safety." *Id.* at 51,672.

As for non-EGU HAP sources, the difficulty of risk characterizations and controversy surrounding a program that could impose substantial costs on key industries resulted in limited HAP emissions regulation under §7412 prior to 1990. As of 1990, EPA had listed only eight HAPs for regulation under §7412, and had regulated emissions of only seven of those for a limited number of source categories. 40 C.F.R. pt. 61; see *New Jersey* v. *EPA*, 517 F.3d 574 (D.C. Cir. 2008).

B. Statutory Changes to the CAA in 1990.

Non-EGU HAP emissions—Dissatisfied with the slow progress of regulation under §7412, Congress in 1990 amended that provision to introduce a new, control technology-driven approach to ensure prompt regulation of HAPs from the many stationary source categories that had not yet been regulated. See S. Rep. No. 101-228, at 131-33 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3516-18. Congress listed 189 HAPs for regulation, §7412(b), and defined in objective terms the source categories whose HAP emissions were to be regulated. A source category would be listed for regulation if a source within that category is located at a facility that emits more than either 10 tons of any one HAP or 25 tons of all HAPs. §7412(a)(1), (c)(1).

For listed categories, Congress, as it had under other CAA programs, called upon EPA initially to promulgate "technology-based" emission standards[3] under §7412(d), and later to consider more stringent standards under §7412(f) if unacceptable risks remained after implementation of the technology-based standards. Cf. Visibility Protection Program, 42 U.S.C. §7491(b)(2)(A) ("best available retrofit technology" ("BART")) & (B) ("long term...strategy" to reduce risk of visibility impairment).

Technology-based emission standards are found throughout the CAA and have two common elements: (1) Congress identifies a universe of technologies (*i.e.*, low emitting measures, processes, systems or techniques) upon which standards will be based (thus creating a "floor" on required reductions), and (2) Congress requires that costs, energy, and other factors be considered in setting standards based on the candidate technologies. See, *e.g.*, 42 U.S.C. §§7411(a)(1) ("best system of emission reduction"), 7479(3) ("best available control technology" ("BACT")), 7491(b)(2)(A) (BART). For source categories listed under §7412, EPA must establish what EPA calls MACT ("maximum achievable control technology") emission standards, which reflect the "maximum degree of reduction in emissions" that is "achievable" for new and existing sources within the category, "taking into consideration the cost of achieving such emission reduction" and other factors. §7412(d)(2).

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[3] Emission reduction "technology" includes virtually any measure or technique that limits the emissions of a pollutant, from process changes to emission control equipment. See, *e.g.*, §7412(d)(2).

For new sources, the universe of technologies considered in this MACT standard-setting inquiry is determined in the first instance in reference to the degree of emission limitation "achieved in practice by the best controlled similar source." §7412(d)(3). For existing sources, it is determined in reference to the "best performing...existing sources." *Id.* EPA must establish MACT for every individual HAP emitted by major sources in a listed category. *Nat'l Lime Ass'n* v. *EPA*, 233 F.3d 625, 633-34 (D.C. Cir. 2000). Finally, EPA must review MACT standards at least every eight years to account for "developments in practices, processes, and control technologies" for specific HAPs, considering costs. §7412(d)(6); *Ass'n of Battery Recyclers, Inc.* v. *EPA*, 716 F.3d 667, 673-74 (D.C. Cir. 2013) (*per curiam*).

Following implementation of §7412(d) standards, the Administrator must consider regulation of residual *public health* risks posed by individual HAP emissions if needed to provide an "ample margin of safety to protect public health in accordance with this section (*as in effect before November 15, 1990*)," §7412(f)(2)(A) (emphasis added)—a reference to EPA's pre-1990 interpretation of "ample margin of safety" to encompass consideration of cost and other factors. Moreover, reflecting EPA's pre-1990 approach to "ample margin of safety" regulation, Congress recognized one-in-one million as a negligible level of public health risk. See §7412(f)(2)(A), (c)(9). Finally, under §7412(f), the Administrator must also consider regulation of residual *environmental* risks associated with such non-EGU emissions if she determines that a more stringent standard is "necessary to prevent, taking into consideration *costs*, energy, safety, and other relevant factors, an adverse

environmental effect."[4] §7412(f)(2)(A) (emphasis added). In this manner, Congress made clear that costs and other factors are relevant to striking an appropriate regulatory balance when addressing either health or environmental residual risks that might remain after control technology regulation.

EGU HAP emissions—In the legislative process that led to the 1990 Amendments, individual legislators expressed concern that duplicative regulation of EGUs "would increase power rates, while potentially providing little or no public health benefit." 136 Cong. Rec. 3493 (Mar. 6, 1990) (statement of Sen. Steve Symms); *see also* 136 Cong. Rec. 3185 (Mar. 1, 1990) (Summary of Bi-Partisan Senate Clean Air Act Agreement Nonattainment of Health Standards for Ozone); 136 Cong. Rec. 3392 (Mar. 5, 1990) (same); S. 1630, §301 (1990), *reprinted in* 3 A Legislative History of the Clean Air Act Amendments of 1990, at 4119, 4407, 4433 (1993) ("1990 Legis. History"). While the Senate went to conference with a bill that would have treated EGUs the same as other source categories, see S. 1630, §301 (1990), *reprinted in* 3 1990 Legis. History, at 4418-28, the House bill included an EGU-specific provision virtually identical to the current §7412(n)(1)(A). S. 1630 as passed by the House, §301 (1990), *reprinted in* 2 1990 Legis. History at 1809, 2122, 2148-49. Reflecting the widespread concern with duplicative regulation of EGUs, the Conference Committee adopted the House provision requiring separate regulatory scrutiny of EGU HAP emissions. Pub. L. No. 101-549, 104 Stat. Ann. 2399, 2558-59 (1990).

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[4] "Adverse environmental effect" is defined in §7412(a)(7) as "any significant and widespread adverse effect."

In this EGU-specific provision, which became §7412(n) of the Act, Congress recognized that EGU HAP emissions are not like HAP emissions from other source categories.[5] In addition to earlier CAA programs that had substantially reduced EGU HAP emissions, Congress in 1990 imposed massive additional reduction requirements on EGU emissions of conventional, non-hazardous pollutants, such as SO_2, nitrogen oxides and PM. These programs included a new regional haze visibility program, new acid rain title, and stringent, new nonattainment requirements—all focused on further EGU reductions in conventional pollutants. These requirements reduced conventional pollutant emissions by many millions of tons and lowered EGU HAP emissions even further beyond the already low, pre-1990 levels.[6] Congress in §7412(n)(1)(A) therefore focused EPA's authority to regulate EGU HAPs on only those HAP emissions that posed an unacceptable residual health risk after implementation of other CAA programs.

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[5] 2005 Correction Rule, Pet. App. 550a; MATS Rule, Pet. App. 242a (acknowledging "disparate treatment" of EGUs under §7412); see also Pet. App. 84a ("the majority opinion...does not sufficiently account for the fact that treating electric utilities differently from standard sources was the intent of Section [74]12(n)(1)(A), as revealed by the statutory text....") (Kavanaugh, J., concurring in part and dissenting in part).

[6] See EPA, Clean Air Market Programs, Acid Rain Program Benefits Exceed Expectations (undated), *available at* http://www.epa.gov/capandtrade/documents/benefits.pdf; National Acid Precipitation Assessment Program, National Acid Precipitation Assessment Program Report to Congress 2011: An Integrated Assessment (Dec. 2011), *available at* www.whitehouse.gov/sites/default/files/microsites/ostp/2011_napap_508.pdf.

Congress in §7412(n) instructed EPA to conduct "a study of the hazards to public health reasonably anticipated to occur as a result of [the EGU HAP] emissions" that remain *after* "imposition of the requirements of this [Act]." §7412(n)(1)(A). As part of that evaluation, Congress instructed EPA to "develop and describe...alternative control strategies for [any HAP] emissions which may warrant regulation under this section." *Id.* Then, for any HAP emission that might "warrant" regulation, Congress provided that EPA is to regulate that emission "under this section [§7412]" if it determines that "such regulation is appropriate and necessary after considering the results of the study." *Id.*

Congress' §7412(n)(1)(A) program for residual public health risks from EGU HAP emissions shares a number of features in common with other programs addressing residual risk regulation of non-EGU source categories. In particular, residual risk regulation under both §7412(f) and §7412(n)(1)(A) requires a pollutant-specific risk management decision that considers a broad array of factors and regulatory consequences. As Representative Oxley (a sponsor of the 1990 House Bill) explained, §7412(n) was written to "protect[]...the public health while avoiding the imposition of excessive and unnecessary costs on residential, industrial, and commercial consumers of electricity." See House Debate on the Clean Air Act Amendments of 1990 Conference Report (Oct. 26, 1990) (statement of Rep. Michael Oxley), *reprinted in* 1 1990 Legis. History, at 1417.

II. Characteristics of EGU HAP Emissions.

EGU HAP emissions result from elements naturally present in trace amounts in the fuels combust-

ed to generate electricity. Emissions of these elements are largely removed from EGU gas streams by control technologies installed to address conventional pollutants. See *supra* pp. 4-5 & note 2. The four general categories of EGU HAPs on which EPA focused in the MATS rulemaking were mercury, non-mercury metals (*e.g.*, arsenic, chromium, and nickel), acid gases (*e.g.*, hydrogen chloride ("HCl") and hydrogen fluoride ("HF")), and organics (including dioxins).

Mercury: Mercury enters the environment both through natural processes, such as volcanic eruptions and forest fires, and through human activities, such as gold mining and fossil fuel combustion. In 2004, EPA estimated that total global emissions of mercury were about 5,000 tons per year: 1,000 tons from natural sources, 2,000 tons from manmade sources, and 2,000 tons from reemission of mercury previously deposited on soil. 69 Fed. Reg. 4652 (Jan. 30, 2004) ("2004 Proposed Correction Rule"), JA 143. EPA's 1998 Utility Study estimated that U.S. coal-fired EGUs emitted about 51.5 tons of mercury annually, or about 1% of the 5,000 tons of annual worldwide mercury emissions. Utility Study, JA 132-134. By 2010, those mercury emissions were reduced to 29 tons per year as a result of other CAA control programs. 76 Fed. Reg. 24,976 (May 3, 2011) ("Proposed MATS Rule"), NMA App. 1298a.

Humans are primarily exposed to mercury through consumption of fish containing methylmercury. *Id.* at 1195a. EGUs do *not* produce or emit methylmercury. Methylmercury is formed by microbes in waterbody sediment and eventually works its way up the food chain to fish. Only a small fraction of the mercury emitted by EGUs deposits in the

United States and only a small fraction of that deposited mercury actually enters waterbodies. Only a very small fraction of that deposition is biologically transformed into methylmercury, and only a small fraction of that methylmercury ends up in the fish that people eat. See Electric Power Research Institute ("EPRI") Comments on 2004 Proposed Correction Rule at 2 (June 16, 2004), Docket No. EPA-HQ-OAR-2002-0056-2578. As a result, human exposure to methylmercury resulting from domestic EGU emissions is exceedingly small. 2005 Correction Rule, JA 146-153.

Trace metals: When coal and oil are combusted in an EGU, non-mercury trace metals (*e.g.*, chromium and arsenic) adhere to ash particles, which are captured by high efficiency PM control devices required under other CAA programs. In the 1998 Utility Study, EPA performed a conservative, "high-end" estimate of the inhalation risks posed by non-mercury metal emissions from all coal-fired EGUs. Those analyses of HAP metals showed that out of 426 coal-fired utility boilers, Utility Study, JA 123, *only two* had cumulative carcinogenic risks of slightly greater than one-in-one million, with the highest facility risk at three-in-one million. *Id.* at 124-125. For non-carcinogenic trace metal emissions, EPA found that inhalation exposure levels were far below the reference concentration ("RfC"), which defines a safe level of exposure. *Id.*

In December 2009, EPRI modeled every coal-fired facility in the United States and found that *none* posed a carcinogenic risk greater than one-in-one million. EPRI, Comments on Proposed MATS Rule at 3-22 to 3-24 (Aug. 4, 2011) ("EPRI MATS Comments"). In 2010-2011, EPA performed another

highly conservative analysis, and concluded that five coal-fired utility boilers in the United States *might* slightly exceed a one-in-one million risk level, with the highest calculated risk at five-in-one million. MATS Rule, NMA App. 440a; EPA, EPA-452/R-11-013, Supplement to the Non-Hg Case Study Chronic Inhalation Risk Assessment in Support of the Appropriate and Necessary Finding for Coal- and Oil-Fired Electric Generating Units (Nov. 2011), Docket No. EPA-HQ-OAR-2009-0234-19912 ("Supplement to Non-Hg Case Study"), JA 819-820.[7]

Acid gases: During the combustion process, trace amounts of chlorine and fluorine combine with hydrogen to form the acid gases HCl and HF, which are non-carcinogens. Acid gas emissions are limited by SO_2 control devices such as scrubbers required under other programs. Proposed MATS Rule, NMA App. 1330a. EPA's modeling has consistently shown that the levels of human exposure to EGU acid gas emissions are an order of magnitude or more below conservative health-protective levels for those HAPs. Utility Study, JA 120-121, 131; Proposed MATS Rule, NMA App. 1485a ("Our case study analyses of the chronic impacts of EGUs did not indicate any significant potential for them to cause any exceedances of the chronic RfC for HCl...."); Supplement to Non-Hg Case Study, JA 818-820. In terms of envi-

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[7] As explained in UARG's April 2012 petition for administrative reconsideration, later re-sampling of these five plants showed that the emissions data on which EPA relied to claim a greater than one-in-one million risk level were the result of sampling contamination. UARG Petition for Reconsideration of MATS Rule at 6-7 (Apr. 16, 2012), Docket No. EPA-HQ-OAR-2009-0234-20179. EPA has never responded to that aspect of UARG's petition.

ronmental effects, these acid gases represent less than one percent of the emissions contributing to acidification in United States waterbodies. EPRI MATS Comments, JA 412-418.

Organics: Coal and oil are mostly made up of "organic" compounds—*i.e.*, molecules comprised mostly of carbon and hydrogen—which release significant amounts of energy when combusted. Organic HAPs are emitted as a result of incomplete fuel combustion. Testing for EGU emissions of organic HAPs in 2010 reported a large majority of "non-detect" values, meaning the amount emitted (if any) was so low that modern measurement methods could not detect it. Proposed MATS Rule, NMA App. 1441a.

III. Agency Action Under §7412(n) Prior to the MATS Rulemaking.

Administrator Browner's "notice of regulatory finding"—In 1998, EPA published the Utility Study required by §7412(n)(1)(A). In that study, EPA evaluated mercury, non-mercury metals, acid gases, and organics. Consistent with EPA's pre-1990 evaluations of EGU HAP emissions, EPA did not identify any "hazards to public health" that would remain after implementation of other CAA programs. Therefore, EPA did not make any "appropriate and necessary" finding under §7412(n)(1)(A). Utility Study, JA 62. Instead, EPA identified the need for further research in 11 areas "to gain a better understanding of the risks and impacts of utility mercury emissions." *Id.* at 110, 136-137. EPA also noted "potential concerns and uncertainties that may need further study" for dioxins, arsenic, and nickel emissions. *Id.* at 111. EPA found risks for acid gases and

organic HAPs were far below levels that would pose any health concern. *Id.* at 124-125.

Without completing most of the mercury research and any of the arsenic, nickel or chromium research identified by the Utility Study, and without conducting any notice-and-comment rulemaking, on December 20, 2000, then-departing Administrator Browner published a "[n]otice of regulatory finding." Notice of Finding, Pet. App. 610a-635a. In conclusory terms, she announced that regulation of mercury emissions from coal-fired EGUs and nickel emissions from oil-fired EGUs was "appropriate and necessary" under §7412(n)(1)(A). *Id.* at 630a, 633a. In so doing, Administrator Browner indicated that this "regulatory finding" would be the subject of future rulemaking. *Id.* at 634a. Based on this regulatory finding, EPA listed EGUs as a source category under §7412(c), triggering the §7412(d) regulatory regime applicable to non-EGU source categories. *Id.*

Initial §7412(n) rulemaking—In 2004, EPA began the promised notice-and-comment rulemaking to examine whether it was "appropriate and necessary" to regulate EGU HAP emissions. At the end of this rulemaking, EPA found that the last-minute 2000 notice "lacked foundation" and concluded, based on "new information," that it was not appropriate to regulate mercury emissions from EGUs or nickel emissions from oil-fired EGUs. 2005 Correction Rule, Pet. App. 590a, 604a-608a. In addition, EPA found, coal-fired EGU emissions of other non-mercury HAPs posed too little risk to warrant regulation. *Id.* at 598a-604a. As a result, EPA removed EGUs from the §7412(c) list of source categories for regulation under §7412(d). *Id.* at 545a.

In rejecting regulation of EGU emissions under §7412, the Agency concluded that "[n]othing precludes EPA from considering costs in assessing whether regulation of Utility Units under section [74]12 is appropriate in light of all of the facts and circumstances presented." *Id.* at 576a. Therefore, "[e]ven if the remaining utility HAP emissions cause hazards to public health, it *still may not be appropriate* to regulate [EGUs] under section 112 because there may be other relevant factors [such as cost]...that would lead the Agency to conclude it is not...'appropriate' to regulate [EGUs] under section [74]12." *Id.* at 575a (emphasis added). In a companion rule known as the Clean Air Mercury Rule, EPA promulgated emission standards regulating mercury emissions from both new and existing EGUs under §7411. 70 Fed. Reg. 28,606 (May 18, 2005).

New Jersey* v. *EPA—The D.C. Circuit heard challenges to the final §7412(n) rule on EGU HAP emissions and the final §7411 rule regulating EGU mercury emissions. The court vacated EPA's decision to remove coal- and oil-fired EGUs from the §7412(c) list of regulated source categories, reinstated the earlier §7412(c) listing, and vacated the §7411 standards. *New Jersey* v. *EPA*, 517 F.3d 574 (D.C. Cir. 2008). In so doing, the court did not review the factual or statutory basis for the finding that *any* "regulation under [§7412]" was not "appropriate and necessary." Instead, it found that even if the Brower §7412(n) finding in 2000 and §7412(c) listing were erroneous, EPA could only remove EGUs from the list of source categories regulated under §7412(d) if it followed the delisting requirements of §7412(c)(9). *Id.* at 583. Section 7412(c)(9) provides for "de-listing" of a listed source category only if no source in the

category poses a lifetime cancer risk of greater than one-in-one million, or a noncancer health risk that "exceed[s] a level which is adequate to protect public health with an ample margin of safety." §7412(c)(9)(B)(ii). De-listing also requires a finding that HAP emissions from a source do not create an "adverse environmental effect." *Id.* With EGUs reinstated to the §7412(c) list, the court vacated the §7411 EGU mercury regulations on the ground that EGUs could not simultaneously be regulated under those two provisions. *New Jersey*, 517 F.3d at 583; see also §7411(d); *Am. Elec. Power Co.* v. *Connecticut*, 131 S. Ct. 2527, 2537 n.7 (2011).

IV. Regulation of EGU HAP Emissions Under the MATS Rule.

In 2011 and 2012, EPA conducted its *New Jersey* remand rulemaking, which resulted in the MATS Rule at issue here. In the MATS Rule, yet another EPA (*i.e.*, the third Administration to address the issue) concluded that the December 2000 Notice of Finding *was* sufficient to list EGUs under §7412(c). MATS Rule, Pet. App. 179a. Looking to the §7412(d) regulatory regime that applies to non-EGUs, EPA then concluded that "such [§7412(d)] regulation" was "appropriate and necessary" for EGUs under §7412(n), in order to regulate not just mercury (the pollutant addressed in Administrator Browner's regulatory finding), but *every HAP* emitted by *every EGU*, as long as EPA found that one HAP emitted by one EGU created a residual "public health" risk *or* an "environmental" risk. *Id.* at 365a; see also Proposed MATS Rule, Pet. App. 523a.

EPA then promulgated the §7412(d) emissions standards for EGUs, regulating all HAPs emitted by

EGUs regardless of the magnitude—or even existence—of any public health risk, and regardless of the cost of regulation. Not surprisingly, the costs of EPA's final rule dwarfed the HAP emission reduction benefits that EPA was able to quantify. Compare MATS Rule, Pet. App. 115a (estimating annual compliance costs of $9.6 billion) with *id.* at 461a (quantifying HAP health benefits, all associated with mercury reduction, at $4 to $6 million). Regarding acid gases in particular, EPA never found any threat to public health but nevertheless imposed MATS compliance obligations that account for about one-half of the $9.6 billion in annual costs estimated by EPA (and for about $30 billion in additional capital costs). See UARG, Comments on Proposed MATS Rule at 258 (Aug. 4, 2011) ("UARG Comments on Proposed MATS Rule"), Pet. App. 512a, JA 807-810.

V. The D.C. Circuit Decision.

A total of 23 States and one governor, as well as numerous industry parties, filed petitions for review of various aspects of the MATS Rule, including EPA's refusal to consider costs in determining whether it was "appropriate and necessary" to regulate EGU HAPs. On April 15, 2014, the D.C. Circuit (Chief Judge Merrick Garland, Judge Judith Rogers, and Judge Brett Kavanaugh) denied all petitions for review. Pet. App. 10a.

With regard to whether EPA is required to consider cost in determining if it is "appropriate" to regulate emissions of EGU HAPs, Judges Garland and Rogers held that EPA was not required to consider cost. *Id.* at 26a ("[S]uch a reading of 'appropriate' is unwarranted here...."). They concluded that Congress' use of the word "costs" in other provisions of

§7412 meant that Congress could not, "by using only the broad term 'appropriate'[,]...have intended...that costs be considered...in §[74]12(n)(1)(A)." *Id.* at 27a. The panel majority also reasoned that Congress had anticipated that the factors EPA decides to consider in making an "appropriate and necessary" determination—and hence whether and how to regulate (or not) under §7412(n)(1)(A)—can change over time. *Id.* at 35a ("[A]dministrations may differ and can change positions without legal jeopardy....").

In a strongly worded dissent on the cost question, Judge Kavanaugh concluded that the "key statutory term...'appropriate'...[is] the classic broad and all encompassing term that naturally and traditionally includes consideration of all the relevant factors, health and safety benefits on the one hand and costs on the other." *Id.* at 88a. In fact, the magnitude of the costs at issue in this rulemaking were so enormous that Judge Kavanaugh found EPA's neglect particularly egregious:

> The estimated cost of compliance with EPA's Final Rule is approximately $9.6 billion per year, *by EPA's own calculation*.... To put it in perspective, that amount would pay the annual health insurance premiums of about two million Americans.... Put simply, the Rule is "among the most expensive rules that EPA has ever promulgated."

Id. at 82a (emphasis in original) (citation omitted).

More recent federal government analyses demonstrate that EPA's costs estimates were, if anything, underestimated. While EPA projected that coal-fired retirements would be 4.7 gigawatts, the U.S. Energy Information Administration has estimated that the

MATS Rule will contribute to the retirement by 2016 of 54 gigawatts of coal-fired generation capacity, or about 1/6 of total domestic coal-fired capacity.[8] The magnitude of these compliance costs is unprecedented. In 2011, EPA projected that *total* CAA compliance costs for EGUs, including the costs associated with regulation under the NAAQS, visibility, preconstruction and operating permit programs, and new source performance standards, would be about $10.4 billion annually by 2020,[9] as compared to the

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[8] U.S. Energy Information Administration, Today in Energy, AEO2014 Projects More Coal-Fired Power Plant Retirements by 2016 Than Have Been Scheduled (Feb. 14, 2014), *available at* http://www.eia.gov/todayinenergy/detail.cfm?id=15031; see also Institute for Energy Research, Impact of EPA's Regulatory Assault on Power Plants: New Regulations to Take More than 72 GW of Electricity Generation Offline and the Plant Closing Announcements Keep Coming... (Oct. 2014), *available at* http://instituteforenergyresearch.org/topics/policy/power-plant-closures/.

[9] EPA, The Benefits and Costs of the Clean Air Act from 1990 to 2020, Final Report—Rev. A, at 3-8 (Apr. 2011), *available at* http://www.epa.gov/cleanairactbenefits/prospective2.html; see also Industrial Economics, Inc., Direct Cost Estimates for the Clean Air Act Second Section 812 Prospective Analysis, at 2-29 & n.77 (Feb. 2011), *available at* http://www.epa.gov/air/sect812/feb11/costfullreport.pdf (explaining inclusion of Clean Air Mercury Rule costs). In 1999, EPA had estimated that *total* compliance of HAP regulation, across *all* source categories, would total $840 million by 2010. EPA, EPA-410-R-99-001, The Benefits and Costs of the Clean Air Act 1990 to 2010, EPA Report to Congress at 25 (Nov. 1999), *available at* http://www.epa.gov/cleanairactbenefits/prospective1.html?_ga=1.261211470.2101051446.1421202605 ("Benefits and Costs 1990-2010").

compliance costs of the MATS Rule alone of about $9.6 billion annually.[10]

SUMMARY OF ARGUMENT

This case involves a simple question: can EPA refuse to consider costs when determining whether it is "appropriate and necessary" to regulate EGU HAP emissions under §7412 of the Clean Air Act? Congressional intent on this question is clear. And the answer is no.

The Clean Air Act presents an intricate statutory regime, requiring EPA to undertake a variety of tasks, including making health determinations, conducting studies, and setting emission standards. Every time that the Act calls upon EPA to consider establishing emission standards, EPA is required to consider cost in some fashion.

In keeping with this general approach to clean air regulation, Congress addressed EGU HAP emissions very differently from non-EGU HAP emissions under §7412. Non-EGU HAP emissions from source categories other than EGUs are subject to technology-based regulation whenever tonnage thresholds are exceeded. By contrast, in recognition of the numerous other programs that indirectly reduce EGU HAP emissions, Congress directed that EGU HAP emissions are to be regulated under §7412 only if EPA determines that "such [§7412] regulation" is "appropriate and necessary." Determining whether regulation under any of the specific emission standard-setting

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[10] EPA's $9.6 billion cost figure focuses only on compliance costs, not indirect costs that EPA has elsewhere recognized, like effects on work force and consumers of electricity. Benefits and Costs 1990 to 2010, at iii.

provisions of §7412 is "appropriate and necessary" requires consideration of a number of factors, as is the case for emission standard-setting decisions under the Clean Air Act generally, including the public health impacts of EGU HAP emissions and the costs of regulation. EPA's refusal to consider cost under this broad and encompassing statutory language and in the context of this specific statutory framework is impermissible.

When one examines the function of §7412(n)(1)(A), which is to determine whether §7412 regulation is needed and is suitable to address residual risks that might remain after regulation of EGU HAP emissions under other programs, the unreasonableness of EPA's interpretation is underscored. Residual risk, by definition, presents the prospect of diminishing benefits for ever increasing regulatory costs. Disavowing any consideration of cost in this context caused EPA to act contrary to what is in the public interest: to regulate EGU HAP emissions only if "appropriate." The imposition of $9.6 billion in costs to achieve $4 to $6 million in benefit should, at the very least, signal caution. Throwing caution to the wind, the panel endorsed EPA's refusal to consider cost because the word "cost" is not listed explicitly in the provision. But this word (and other relevant factors) also do not appear in statutory provisions calling for "public interest" regulation. When "appropriate and necessary" is read in a common sense way and in the context of §7412(n)(1)(A)'s purpose and objectives, those broad and encompassing terms compel consideration of cost.

In refusing to consider cost, EPA erred. The economic consequences of its error are overwhelming.

ARGUMENT

In deciding whether it was "appropriate" to regulate EGU HAP emissions, EPA refused to consider the costs that regulation would impose. That much is not in dispute. Less clear is why EPA chose to be cost blind.

In the Proposed MATS Rule, EPA "interpret[ed] the term 'appropriate' to *not allow* for the consideration of costs." Pet. App. 523a (emphasis added). This interpretation of "appropriate," EPA said, was "consistent with the overall structure of the CAA," insofar as "Congress *did not authorize* the consideration of costs" in making decisions on "listing" and "delisting" other source categories under §7412(c). *Id.* at 527a (emphasis added). In responding to public comments in the MATS rulemaking, however, EPA seemed to shift, claiming that, because "[c]ost does not *have to be* read into the definition of 'appropriate,'" MATS Rule, Pet. App. 212a (emphasis added), it was "reasonable" to make the "appropriate determination[] without considering costs." *Id.* at 210a; see also EPA's Responses to Public Comments on Proposed MATS Rule, Vol. 1 (Dec. 2011), Docket No. EPA-HQ-OAR-2009-0234-20126, Pet. App. 509a.

The panel majority offered similar, competing rationales for EPA's refusal to consider costs. Compare Pet. App. 26a (§7412(n)(1)(A) "neither requires EPA to consider costs nor prohibits EPA from doing so.") with *id.* at 27a. (Because Congress used the word "costs" in certain other provisions of §7412, Congress could not "by using only the broad term 'appropriate'...have intended...that costs be considered...in §[74]12(n)(1)(A).").

Regardless of the *Chevron* rationale, EPA's refusal to consider costs in determining whether it was "appropriate" to regulate EGU HAP emissions under §7412 was unlawful.

I. The "Appropriate and Necessary" Decisional Standard in §7412(n)(1)(A) Embraces a Broad Range of Factors That Includes Costs.

Section 7412(n)(1)(A), like other residual risk emission reduction provisions, calls upon EPA to identify risks of a particular kind ("hazards to public health") that are found to remain after implementation of other emission reduction provisions of the CAA. If no "hazards to public health" are identified in the §7412(n) study called for by Congress, no §7412 regulatory response by EPA is contemplated or authorized. If EPA finds a public health hazard that is reasonably anticipated to occur, however, §7412(n) requires EPA to focus on the EGU HAP emissions that cause that health hazard and to determine the degree to which that hazard would be reduced through "regulation [of those emissions] under" §7412. Finally, having identified the §7412 regulatory response, EPA must determine whether "such regulation" under §7412 is "appropriate and necessary."

Both "appropriate" and "necessary" are terms that call for qualitative judgments influenced by a broad range of factors. The word "appropriate" means "suitable or proper in the circumstances." The New Oxford American Dictionary 76 (2d ed. 2005). The word "necessary" means "required to be done, achieved, or present; needed; essential." *Id.* at 1135. In the context of §7412(n), the cost of achiev-

ing reductions and the size of those reductions are centrally relevant to determining whether "such regulation" of EGU emissions under §7412 is "appropriate and necessary" to address a health hazard. The size and seriousness of a health risk balanced against costs and other consequences of reducing that risk will determine whether a new level of control is "needed," whether the existing level is "proper," and whether the proposed §7412 regulatory response is "suitable" to address that risk.

As discussed below, the "appropriate and necessary" decisional standard contemplates that EPA make policy judgments regarding imposition of additional emissions regulation. Like other CAA provisions governing emission standard-setting decisions, including those based on residual risk, costs will always be a relevant consideration in making those policy judgments. See, *e.g.*, *Indus. Union Dep't, AFL-CIO* v. *Am. Petroleum Inst.*, 448 U.S. 607, 708 (1980) (Marshall, Brennan, White and Blackmun, JJ., dissenting) ("'[R]easonably necessary or appropriate' clauses are routinely inserted in regulatory legislation, and...have uniformly been interpreted as general provisos that regulatory actions must bear a reasonable relation to th[e] statutory purposes."); *id.* at 704 (Occupational Safety and Health Act ("OSHA") gave "'careful consideration' to...whether the admittedly substantial costs were justified in light of the hazards" under the act's "necessary or appropriate" standard.); *id.* at 667 (Powell, J., concurring) (A standard "is neither 'reasonably necessary' nor 'feasible'...if it calls for expenditures wholly disproportionate to the expected health and safety benefits.").

A. Congress Has Consistently Required Consideration of Costs in Making Decisions on CAA Emission Standards.

The CAA authorizes a variety of different types of agency actions under numerous different air pollution control programs. Certain actions call for a finding that specific emissions contribute to pollution that endangers health or welfare. *E.g.*, 42 U.S.C. §§7411(b)(1)(A) (new source performance standards), 7521(a) (vehicle and engine emissions). Others provide for ambient standards that identify pollutant concentrations that are protective of public health or welfare. Cost is irrelevant to these health and welfare effects actions. §7409(b)(1), (d) (NAAQS). *Whitman* v. *Am. Trucking Ass'ns*, 531 U.S. 457, 471 (2001) (holding that costs may not be considered in setting NAAQS under §7409(b)); *Coal. for Responsible Regulation, Inc.* v. *EPA*, 684 F.3d 102, 118 (D.C. Cir. 2012) (*per curiam*), *aff'd in part & rev'd in part*, *UARG* v. *EPA*, 134 S. Ct. 2427 (2014) (concluding that cost judgments are not part of "endangerment finding" in §7521(a)(1)).

By contrast, every provision of the Act that authorizes EPA to address the establishment of *emission standards* for specific sources includes costs as a standard-setting consideration. See, *e.g.*, §§7410(a)(2)(D) ("good neighbor" provision, which was interpreted in *EPA* v. *EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1607 (2014), to contemplate consideration of cost), 7411(b) & (d) (new and existing source performance standards), 7412(d)(2) (MACT), 7475 (BACT), 7491 (BART), 7502 ("reasonably available control technology") & 7651f (nitrogen oxides "acid rain" emissions standards for EGUs).

Consideration of cost in establishing standards regulating conduct is found across all regulatory statutes. See, *e.g.*, *Entergy Corp.* v. *Riverkeeper, Inc.*, 556 U.S. 208 (2009) (upholding EPA's use of cost-benefit analysis in setting "best technology" cooling water intake requirements under the Clean Water Act); *Am. Textile Mfrs. Inst., Inc.* v. *Donovan*, 452 U.S. 490 (1981) (OSHA). Emission control standards that are so stringent as to put sources out of business create their own public health and welfare risks, through impacts on both communities (*e.g.*, lost tax base) and individuals (*e.g.*, lost jobs).[11] Cf. Pet. App. 78a ("[T]he centrality of cost consideration to proper regulatory decisionmaking" necessarily establishes "cost" as being among the "relevant factors" that a regulatory agency must normally take into account.).

Consideration of cost-benefit relationships is especially relevant for emission standards that address residual emissions and risk. Whenever smaller increments of emissions are regulated, the costs to society of achieving those reductions increase.[12] Resid-

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[11] See *Indus. Union Dep't*, 448 U.S. at 669 (Powell, J., concurring) ("[A] standard-setting process that ignored economic considerations would result in a serious misallocation of resources and a lower effective level of safety than could be achieved under standards set with reference to the comparative benefits available at a lower cost."); Steve P. Calandrillo, *Responsible Regulation: A Sensible Cost-Benefit, Risk Versus Risk Approach to Federal Health and Safety Regulation*, 81 B.U. L. REV. 957, 996 (2001) ("[W]ell-meaning regulations aimed at improving public safety by reducing certain risks sometimes unintentionally increase the probability of other risks.").

[12] See, *e.g.*, Sheldon Meyers, Office of Radiation Programs, Office of Air and Radiation, EPA, *Applications of De Minimis*, *in* DE MINIMIS RISK 101, 102 (Chris Whipple ed., 1987) ("We all know that each decade of risk reduction has generally increased

ual risk standard-setting necessarily involves an inquiry into both whether the increment of emissions of a pollutant that remains after earlier reductions of the pollutant is of continuing regulatory concern (*i.e.*, poses a risk that is not de minimis) and, if so, whether those residual risks are worth regulating (*i.e.*, what level of risk and risk reduction is achievable in light of costs, feasibility, and other factors). See EPA Residual Risk Report at 127.[13] Without consideration of the consequences of regulating, the increasing costs of regulating and the declining risks posed by progressively smaller increments of a pollutant can lead to a gross misallocation of resources and "extreme disparities" between costs and benefits. See *Entergy Corp.*, 556 U.S. at 224; VICIOUS CIRCLE at 11 (Ignoring consequences can result in "standards so stringent...that the regulatory action ultimately imposes high costs without achieving significant additional safety benefits.").

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costs and decreased benefits—it frequently is relatively cheap to reduce risks from 0 to 90%, more expensive to go from 90 to 99%, and more expensive still to go from 99 to 99.9%."); see also STEPHEN BREYER, BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION 11 (1993) ("VICIOUS CIRCLE") ("Removing that last little bit [of risk] can involve limited technological choice, high cost...and endless argument."); Stephen Breyer, *Forward: Beyond the Vicious Circle*, 3 NYU ENVTL. L.J. 251, 252 (1994-95).

[13] See also Meyers, *supra* note 12, at 101 ("There are two possibilities for deciding that one eventually reaches a point where further risk reduction is not warranted: Either (1) the cost of further risk reduction becomes very great in relation to the small additional incremental benefits, or (2) the risk...is so small that it becomes inconsequential....").

B. Section 7412(n)(1)(A) Is a Residual Risk Provision.

Congress in §7412 addressed regulation of residual risk in several places. And in each, Congress instructed EPA to consider a broad range of factors, either by listing a range of relevant factors, see, *e.g.*, §7412(f)(2), or by using regulatory terms that require subjective judgments made after considering myriad factors relevant to those judgments. See, *e.g.*, *id.* §7412(m), (n)(1)(A).

For example, in order to regulate residual public health risk associated with emissions regulated under §7412(f), Congress said the Administrator must apply the "ample margin of safety" standard "as in effect before November 15, 1990." §7412(f)(2)(A). This formulation ensures consideration of *all* of the consequences of residual risk regulation, including costs. See *Natural Res. Def. Council* v. *EPA*, 529 F.3d 1077, 1081-83 (D.C. Cir. 2008) (discussing §7412(f)(2)); EPA Residual Risk Report at ES-11, 128 (explaining that "relevant factors" under the ample margin of safety standard "include[] costs, economic impacts, technological feasibility, and any other relevant factor").

Where regulation of the emission of specific pollutants under §7412 fails to resolve serious adverse health *or* environmental risks to the Great Lakes and other waters, the Administrator is authorized to regulate those individual pollutants as "necessary and appropriate" to address such residual risks. §7412(m). And where "hazards to public health" from an EGU HAP emission remain "after imposition of the requirements of this [Act]," the Administrator may regulate those emissions "under this section," if

the Administrator finds "such regulation" is "appropriate and necessary," after considering the remaining public health risks and "alternative control strategies for emissions which may warrant regulation under this section." §7412(n)(1)(A).

In this statutory context, cost is a factor that must be considered for EPA to resolve whether its proposed §7412 regulatory response for residual health hazard is "appropriate and necessary." Section 112 regulation that addresses minor health risks at huge costs cannot, in any common understanding of the term, be "compelled" and "proper."

The panel majority concedes, as it must, that "the word 'appropriate' might require cost consideration in *some* contexts." Pet. App. 26a. But, according to the panel, "such a reading of 'appropriate' is unwarranted here." *Id.* Why "unwarranted"? The panel majority claims that "[t]hroughout §[74]12, Congress mentioned costs explicitly where it intended EPA to consider them," but failed to explicitly list costs as a relevant factor in §7412(n)(1)(A). *Id.* at 26a-27a. But the word "cost" is absent from numerous CAA provisions under which cost is a relevant factor in EPA policy decisions regarding further regulation of emissions. See, *e.g.*, *EME Homer City*, 134 S. Ct. at 1607 ("The Agency has chosen, sensibly in our view, to reduce the amount easier, *i.e.*, less costly, to eradicate, and nothing in the text of the Good Neighbor Provision precludes that choice."); *Ass'n of Battery Recyclers*, 716 F.3d at 673 (the fact that "section [74]12(d)(6) itself makes no reference to cost" does not bar consideration of cost); 74 Fed. Reg. 30,366, 30,371 (June 25, 2009) (finding that the legislative history "clearly provides that EPA may consider

costs" under §7412(d)(5) even though the term does not appear in the provision).

When Congress uses broad terms that call for subjective policy judgments regarding the regulation of private conduct, Congress is requiring that agencies consider every factor relevant to making that judgment. In the context of broad subjective decisional standards (like "appropriate and necessary"), therefore, congressional silence on factors that must be considered assures consideration of the broadest range of relevant factors, see, *e.g.*, *Indus. Union Dep't.*, 448 U.S. at 708 (Marshall, Brennan, White, and Blackmun, JJ., dissenting), whereas listing one or two factors in such a provision could be interpreted as a congressional intent to *limit* relevant factors to those listed. Indeed, the logic of the majority turns syntax on its head, leading to absurdity.

Construing "silence" as a prohibition would give rise to the "obvious logical impossibility" that EPA was permitted to disregard "all potentially relevant factors." *Entergy Corp.* 556 U.S. at 222. In other words, if the absence of the word "cost" in §7412(n)(1)(A) permitted (if not required) EPA to disregard cost in determining whether regulation of EGU HAP emissions was "appropriate and necessary," then taken to its (il)logical end, *no* factor would be relevant in making determinations under "public interest," "reasonable," "public necessity" and similar broad, qualitative decisional standards. EPA and the panel's interpretive approach would transform such standards into factor-blind directives for which an agency, at best, would have unrestricted discretion to consider only the factors it wishes to consider, thereby fashioning a regulatory decisional standard of the agency's creation. This is an inter-

pretive approach that "surely proves too much." *Entergy Corp.*, 556 U.S. at 222.

The six CAA provisions cited by the panel majority for the proposition that Congress' failure to mention "cost" in §7412(n)(1)(A) requires a cost-blind determination, see Pet. App. 26a-27a, are either irrelevant (because they do not address the establishment of emission standards) or actually confirm the important role that cost considerations must play in any residual risk evaluation. First, three of the provisions on which the panel majority relied are reports to Congress that have no role in establishing emission standards under §7412. See §7412(f)(1), (n)(1)(B) & (s). They say nothing about Congress' use of "appropriate and necessary" in the §7412(n)(1)(A) residual risk evaluation.

Second, the panel majority cites §7412(d)(2) in support of its cost-blind interpretation of §7412(n)(1)(A). Pet. App. 26a-27a. This is an emission standard-setting provision which, as discussed *supra* pp. 7-8, explicitly requires the consideration of cost and other factors in establishing MACT standards based upon control technologies identified applying the §7412(d)(3) criteria. This provision simply underscores the relevance of costs in decisions regarding source emission standards.

Next, the panel majority cites §7412(f)(2)(A), which authorizes public health "residual risk" regulation for pollutants for which control technology standards have been established under §7412(d). Congress explicitly stated that §7412(f)(2)(A) did not disturb the interpretation set forth in a 1989 HAP rule in which EPA considered costs and a range of other factors in evaluating whether there was an

"ample margin of safety." §7412(f)(2)(B); see also *supra* p. 4; 71 Fed. Reg. 76,603, 76,608 (Dec. 21, 2006) (discussing §7412(f) history). This provision highlights the relevance of cost in decisions regarding residual risk standard-setting.

The final provision cited by the panel majority is §7412(d)(8)(A)(i), which provides specific MACT standard-setting instructions for coke ovens. In this provision, Congress stated that in evaluating the "effectiveness" of certain controls and practices, and in determining their "suitability for [their] use on new and existing coke oven batteries," "costs" are relevant. §7412(d)(8)(A)(i). If the controls and practices identified under this provision reduce emissions more than the coke oven technologies identified under the §7412(d)(3) "floor" criteria, see *supra* p. 8, then this provision merely confirms what the §7412(d)(2) emission standard-setting provision requires: Costs must be considered in setting MACT standards. If they do not, then this provision simply authorizes consideration of a broader range of technologies for coke oven MACT standard-setting than the (d)(3) "floor" criteria would. In either case, the provision merely underscores congressional intent that costs be considered in setting coke oven emission standards. This is hardly a statement that costs cannot be considered in deciding to regulate EGU HAP emissions.

In sum, §7412(n)(1)(A) requires the Administrator to regulate EGU HAP emissions under §7412 only if she finds "such [§7412] regulation" is "appropriate and necessary." Section 7412(n), read in context, says what other emission control provisions say: EPA must consider costs and other consequences of

regulation in making decisions regarding standards that regulate residual risk.

C. The Panel Majority's Reliance on *Whitman* Was Misplaced.

Recognizing that nothing in §7412(n) directs EPA *not* to consider costs, the panel majority invokes this Court's decision in *Whitman* v. *American Trucking Ass'ns*, 531 U.S. 457 (2001), in order to "create[] a negative implication that costs are an unnecessary consideration" under §7412(n)(1)(A). Pet. App. 87a (Kavanaugh, J., concurring in part and dissenting in part). In seeking to establish such a negative implication, the panel majority was not only "over-reading" *Whitman* but, more importantly, was ignoring the distinction throughout the Act between threshold actions premised on public health or welfare effects findings and actions premised on judgments regarding the degree to which stationary source emissions should be further regulated. *Id.*

Whitman addressed the level of air quality for specific pollutants that would protect public health or welfare. See §7409(b)(1). As discussed above, health and welfare effects are the only factors relevant to NAAQS determinations, as well as to "endangerment" findings found throughout the CAA. By contrast, in making decisions regarding CAA emission standards that apply to individual sources, feasibility, availability, cost, and other considerations are always relevant. As a result, Congress has required, explicitly or implicitly, that costs be considered in CAA determinations regarding emissions regulation. See *supra* p. 7.

If §7412(n) required that EPA regulate EGU HAP emissions under §7412(d) whenever the Administra-

tor found a "health hazard" associated with any EGU HAP emission, it would be similar to the CAA's "endangerment" provisions. However, that is not what §7412(n)(1)(A) says. EPA's obligations under §7412(n) do not end with a threshold health finding; they *begin with* such a finding. After EPA identifies an EGU HAP emission creating a remaining "health hazard," EPA must (1) determine the degree of EGU HAP emission regulation that the identified health hazard triggers "under" §7412, and then (2) decide whether "such regulation" of EGU emissions under §7412 is "appropriate and necessary." In other words, in deciding whether or not "such [§7412] regulation" is "appropriate and necessary," EPA will resolve the nature and extent of EGU HAP emissions regulation under §7412. Once EPA has determined the degree to which EGU HAPs would be regulated, Congress directed EPA to resolve whether "such [§7412] regulation" is "appropriate and necessary," a phrase that contemplates a careful balancing of the costs and benefits of that further regulation of EGU emissions.

II. EPA Was Also Required to Consider Costs as a Matter of Reasoned Decisionmaking.

In *Motor Vehicles Manufacturers Ass'n* v. *State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29 (1983), this Court made clear that, while an agency decision would be upheld provided that, among other things, the agency had taken into "consideration...the relevant factors," the agency's decisionmaking would be found unreasonable where the agency had "entirely *failed to consider* an important aspect of the problem." 463 U.S. at 42-43 (emphasis added). Here, no one disputes that EPA "entirely failed to consider" costs when it found that it was

"appropriate" to regulate all EGU HAP emissions. That being the case, EPA's refusal to consider costs can reflect reasoned decision-making only if: (1) Congress itself precluded EPA from considering costs; or (2) costs are not an "important aspect of the problem" (*i.e.*, a "relevant factor").

Ultimately, neither EPA nor the panel majority was willing to take the position that EPA was *prohibited* from considering costs. Nor did either EPA or the panel majority explain how it could ever be the case that costs were not a relevant factor.

As Judge Kavanaugh noted, the "consideration of costs" is commonly understood to be "a central and well-established part of the regulatory decision-making process." Pet. App. 82a. This "centrality of cost consideration to proper regulatory decision-making," he further pointed out, necessarily establishes "cost" as being among the factors for which a regulatory agency must normally account, a conclusion underscored by the fact that "'every real choice requires a decisionmaker to weigh advantages against disadvantages, and disadvantages can be seen in terms of (often quantifiable) costs.'" *Id.* at 78a-79a (quoting *Entergy Corp.*, 556 U.S. at 232 (opinion of Breyer, J.)).

The only response that the panel majority could muster is telling: "[W]hile the dissent insists on 'the centrality of cost consideration to proper regulatory decisionmaking,' the panel majority argued, "*Whitman* makes clear the Supreme Court believes that Congress does not necessarily agree." Pet. App. 33a. "Nor," continued the panel majority, "is *Whitman* the only case in which courts have found that Congress legislated in a way the dissent would find irrational."

Id. at 33a-34a (citing *Am. Textile Mfrs.*, 452 U.S. at 511-12).

This Court's precedents do not support the panel majority's assertion. The panel majority asserts that *American Textile Manufacturers* stands for the proposition that cost is not a central consideration in regulatory decision-making. Pet. App. 34a (citing *Am. Textile Mfrs.*, 452 U.S. at 511-12). The Court in that case did *not* say that cost was irrelevant, but rather only that "specific language" in the OSHA provision at issue, 29 U.S.C. §655(b)(5), made clear that "cost-benefit analysis...is not required...because feasibility analysis is." 452 U.S. at 509, 511.

OSHA contained another provision that defined the term "occupational safety and health standard" as "'a standard which requires conditions...*reasonably necessary or appropriate* to provide safe or healthful employment and places of employment.'" *Id.* at 512 (quoting 29 U.S.C. §652(8) (emphasis added by Court)). While the Court found that the provision must be read in concert with the feasibility provision and could not provide an "overriding requirement of cost-benefit analysis," *id.* at 513, the Court also observed that, "[t]aken alone, the phrase 'reasonably necessary or appropriate' might be construed to *contemplate some balancing of the costs and benefits of a standard*." *Id.* at 512 (emphasis added).

In this case, even if some limitation did exist on using the cost-benefit method of analysis under §7412(n) (akin to the "feasibility" section in OSHA), there is nothing about *Am. Textile Manufacturers* that eliminates EPA's responsibility to consider cost in *some manner*. Cf. *id.* at 513 n.31 ("[A]s the legislative history makes plain...any standard that was

not economically or technologically feasible would *a fortiori* not be 'reasonably necessary or appropriate' under [OSHA].'"). Indeed, in *American Textile Manufacturers*, no party disagreed that cost must be considered; they disagreed merely *how* and *how much*.[14]

In the final analysis, the panel majority's argument strikes at a straw man. No one would suggest that it is "irrational" for Congress, in its legislative judgment, to preclude a regulatory agency, in a given setting, from taking costs into account in adopting regulations defining pollutant concentrations protective of public health and welfare. Instead, the pertinent question here is: where costs are clearly relevant, as is the case with regulatory decisions involving emission standards, and Congress has not limited the factors that may be considered to exclude costs, could it ever be "reasonable" for an agency to forgo such consideration? This Court's decision in *State Farm* says no.[15]

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[14] The panel majority also cited *National Ass'n of Clean Air Agencies* v. *EPA*, 489 F.3d 1221 (D.C. Cir. 2007) ("*NACAA*"), as supporting EPA's decision not to consider cost. Pet. App. 26a. In fact, in that case, no one disputed the relevance of cost; the only debate was over the weight to be given that consideration. See *NACAA*, 489 F.3d at 1226.

[15] See also *Entergy Corp.*, 556 U.S. at 232-33 (Breyer, J., concurring in part and dissenting in part) (Noting as to another provision of the CAA that "every real [regulatory] choice requires a decisionmaker to weigh advantages against disadvantages, and disadvantages can be seen in terms of (often quantifiable) costs....[A]n absolute prohibition [on cost-benefit analysis] would bring about irrational results. As the respondents themselves say, it would make no sense to require [power] plants to 'spend billions to save one more fish or plankton.'").

In this case, there is no dispute that the MATS Rule will impose billions of dollars of costs. In the face of these real-world realities, EPA's bland assertion that "nothing about the definition [of 'appropriate'] compels a consideration of costs," and that it was "appropriate to regulate EGUs under CAA section [74]12" simply "because EPA has determined that HAP emissions from EGUs pose hazards to public health and the environment," Pet. App. 211a, is not only unreasonable, it borders on the irrational. Cost here is an "important aspect of the problem" that EPA was required to consider in any exercise of reasoned decision-making.

III. Under §7412(n), Costs Must Be Considered in the Context of Emission Standard-Setting Decisions for the Specific EGU HAP Emissions That Pose Health Hazards.

Whether the term "regulation under this section" in §7412(n)(1)(A) means regulation under §7412(d), as EPA and the panel below concluded,[16] pollutant-specific standards under §7412(n) focused on "unacceptable" public health risks, as petitioners below argued, or some other type of regulation under

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[16] In the MATS Rule, EPA interpreted §7412(n) to mandate §7412(d) standards that control all HAPs emitted by EGUs, so long as one HAP emitted by one EGU is found to pose either a residual health *or* environmental risk. The panel below affirmed this interpretation of §7412(n). Pet. App. 41a-43a. In view of the $9.6 billion cost associated with §7412(d) regulation of all EGU HAPs, a pollutant-specific "risk management" approach to regulation under §7412(n)—an option EPA proposed in the 2004 Proposed Correction Rule—could provide EPA broader authority to regulate EGU HAP emissions than §7412(d) regulation.

§7412, EPA must identify the specific EGU emission reductions that "regulation under" §7412 would require in order to be able to resolve whether "such regulation" is "appropriate and necessary."

Residual risk regulation focuses on specific types of harm caused by specific pollutants. For example, §7412(f)(2) calls for additional regulation of HAP emissions that pose either an unacceptable residual "public health" risk or residual "environmental" risk by establishing standards that "provide...public health" protection or "prevent...adverse environmental effect." Similarly, §7412(m) calls for additional regulation of residual "health" or "environmental" risks "as may be necessary and appropriate to prevent such effects [in identified waterbodies]." If control technology regulation of a HAP leaves no residual health or environmental risk of concern, no residual risk regulation of that HAP is required or authorized under §7412(f) or (m).

Section 7412(n)(1)(A) calls upon EPA to perform a study of the "hazards to public health" associated with EGU HAP emissions that remain "after imposition of the requirements of this [Act]." To address any residual public health risks identified in that study, EPA must describe "alternative control strategies for [those] emissions which may warrant regulation under this section." Thus, like §7412(f) and (m), the §7412(n)(1)(A) residual risk program focuses not on all HAPs, but on the specific remaining EGU HAP emissions that present risks that may warrant regulation. Unlike §7412(f) and (m), however, §7412(n)(1)(A) focuses only on residual "hazards to public health," and not on residual environmental risks.

In the §7412(n)(1)(A) rulemaking, EPA made three independent findings. For mercury, EPA found a health risk associated with EGU emissions across the entire EGU source category. *Supra* p. 18; see also *supra* p. 16. For non-mercury metals, EPA found a health risk above the one-in-one million level for only five EGU boilers. *Supra* pp. 13-14. For acid gases, EPA found no health hazard, but instead "potential" adverse environmental effects. Proposed MATS Rule, NMA App. 1324a.

Reflecting these findings, EPA could estimate public health benefits ($4-$6 million) only for EGU mercury emissions. EPA estimated no health benefits associated with reducing other metals. In the case of acid gas emissions, EPA conceded that they do not pose any health risk. Proposed MATS Rule, Pet. App. 542a-543a; see also *supra* p. 14. Perhaps reflecting that the EGU acid gas emissions represent an exceedingly small percentage of the EGU emissions regulated by the CAA's Acid Deposition Control Program, see *supra* pp. 14-15, EPA was unable to identify any adverse environmental effect in the United States caused by this small fraction of already comprehensively regulated EGU emissions. See EPRI MATS Comments, JA 398-399.

By contrast, EPA estimates that §7412(d) MACT standards for EGUs would collectively cost the industry $9.6 billion annually, raising the question whether such regulation could ever be an "appropriate and necessary" regulatory response. Where overall costs and benefits are so wildly out of balance, whether one or more pollutants are driving that overall imbalance is an important aspect of the problem. To say that Congress authorized EPA to regulate EGU HAP emissions posing a residual

health risk in order to trigger regulation, and at the same time required regulation of EGU HAP emissions that pose no residual health risk, would contradict the language of the statute and completely sever the link articulated in the "appropriate and necessary" clause between the need to regulate and a rational regulatory response.

In this rulemaking, the annual control cost for acid gas emissions is approximately one-half of the $9.6 billion total annual MATS compliance cost while public health benefits are "zero." See *supra* p. 19; see also *supra* p. 14. For trace metals, control costs are less, and there are only five EGU boilers that might pose health risks slightly above the one-in-one million negligible risk level. See *supra* pp. 13-14. Finally, while mercury controls are estimated to produce small benefits, those benefits would come at a cost of well over $1 billion annually. See UARG Comments on Proposed MATS Rule, JA 807.

Because cost of regulation is a relevant consideration under §7412(n), EPA should at the least have to explain why a §7412 regulatory response that requires regulation of specific EGU HAP emissions that pose negligible public health risks and no quantifiable adverse environmental effects, at a cost of billions of dollars annually, could be found to be "appropriate and necessary."

CONCLUSION

The MATS Rule is based on an unlawful interpretation of the CAA and should be declared invalid.

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